The Experience of the Hidden Curriculum for Autistic Girls at Mainstream Primary Schools

R. Moyse and J. Porter*

Department of Education, University of Bath, Bath, UK

Department of Education, University of Bath, Claverton Down, Bath, BA2 7AY

+44(0)1225 386857

*Corresponding author. Email: j.porter@bath.ac.uk

The Experience of the Hidden Curriculum for Autistic Girls at Mainstream Primary Schools

This article presents the findings of ethnographic case studies of three girls on the autistic spectrum attending mainstream primary schools and illustrates the difficulties they experience and the ways in which these are often unrecognised. The observations of the girls and subsequent individual interviews with their mothers, class teachers, SENCO's and ultimately themselves, reveal the personal adjustments the girls make in response to the hidden curriculum and the ways in which these go unnoticed, effectively masking their need for support, and contributing to their underachievement in school. The research also identifies a misunderstanding of autism in girls by some teachers that contributes to a lack of support for their needs, despite their diagnosis. Teachers need to understand how autistic girls present, and how they learn, if they are to recognise the need to illuminate the hidden curriculum. The implications of these findings are that without this awareness autistic girls in mainstream settings are also at risk of limited access to the known curriculum and of social isolation.

Keywords: hidden curriculum; Asperger's syndrome; autism; girls

Introduction

Girls on the autistic spectrum have received relatively little attention until recently, with the incidence of the condition believed to be much greater in boys (McPartland and Volkmar 2013). Autism has a typically suggested male: female ratio of 4:1 (Andersson, Gillberg and Miniscalco 2013), with the gender ratio previously thought to be closest where IQ is below 70 (McClennan, Lord and Schopler 1993; Fombonne 2005). However, recent literature suggests girls who are cognitively able or appear to have better communication skills may have been under diagnosed (Lai et al. 2011). Further, the difficulties they experience may go unrecognized and their needs less likely to be met.

This paper focuses on three autistic girls at mainstream primary schools, each verbal and with a diagnosis of Asperger's Syndrome (AS) or High Functioning Autism

(HFA), and considers the impact on them of the hidden curriculum and the implications this might have for their ability to access the known curriculum.

Literature Review

Presentation of autism in girls

There is some evidence that the phenotype for girls is different, with this group having distinct presentations and needs (Nichols, Moravcik and Tetenbaum 2009; Kopp, Kelly and Gillberg 2010; Gould and Ashton-Smith 2011) that are often less conspicuous than the male phenotype (Attwood et al. 2006; Gould and Ashton-Smith 2011; May, Cornish and Rinehart 2014), where violent behaviour is often the trigger for teacher concern (Kopp and Gillberg 1992).

Autistic girls, particularly girls with HFA/AS, appear to develop coping mechanisms that mask their problems, such as becoming observers or social chameleons, or by internalising aggression and anxiety (Solomon et al. 2012). This may also be an attempt to mimic the 'assumptions that society places on the female gender' (Faherty 2006: p12). These emotions, however, are often only suppressed until they are outside of school, which can mean extreme behavioural differences in the girls at home and at school, with parents often assessing the impact of the diagnosis more severely than teachers (Myles et al, 2007).

Girls are typically diagnosed later than boys (NAS 2012) often after a secondary mental health condition (Wilkinson 2008), and this later diagnosis is consistent with a 'reversal of trend' noted by McLennan et al. (1993: 224). Social difficulties for boys are more noticeable at an early age, whilst core impairments may be hidden in younger girls (Kopp and Gillberg 1992) but became more obvious in their teens; a time when peer-to-peer communication between girls becomes more complex.

There is good reason to believe that because of their different presentation these girls are less likely to have their needs met in primary school, particularly given evidence that autistic conditions that appear less severe may impact on the level of acceptance and support received (Attwood et al. 2006; Kopp, Kelly and Gillberg, 2010; Krahn and Fenton, 2012).

Key challenges at school

Arguably the most significant challenge faced by autistic girls at mainstream schools is that presented by the requirement for almost continuous social interaction, which may impact on every aspect of their behaviour and learning (Jordan and Powell 1996; Myles 2005). In class children are expected to cooperate and collaborate, complicated interactions that require significant cognitive input (Gal et al. 2009). Transitions, play times and lunch times can be even more stressful as they are 'the most social and least structured' (Perepa 2011).

Girls typically play closely together both physically and cooperatively (Gould and Ashton-Smith 2011) but girls /HFA can find it difficult to form friendships; they want to have friends but do not have the innate skills to make it work (Attwood 2007; Beteta 2009). Unspoken rules that direct play make it more difficult for these girls to understand how to participate in an appropriate way: they may miss out on what Grugeon (1993, 30) calls 'the essential features of the playground culture' that help shape female identity; they are 'denied access to the very contexts in which such skills are practiced' (Jordan and Powell 1996, 20-21). Their joining skills may be inept (Wing 2007) and they typically lack reciprocity in play, often trying to take control as a coping strategy (Attwood 2007). Impairments in social interaction may be more disabling for girls than boys because talking is an integral characteristic of girls' play (Nichols, Moravcik and

Tetenbaum 2009), and their social isolation can be more difficult to spot as girls tend to be 'ignored or overlooked' rather than 'rejected' (Dean et al. 2014: 7).

Their condition means they struggle to understand the world around them, which causes stress and anxiety (Lawson 1988). This in turn impacts on their ability to learn: information retrieval is more difficult and the functioning of 'the thinking part of the brain' is impaired (Myles and Southwick 1999, 6). Despite having average to high intelligence, children with AS/HFA are more likely to underachieve academically than their neuro-typical peers (Howlin 2005). Problems with executive functioning, slower processing speeds plus rigid, inflexible thinking (Attwood 2007; Garnett et al. 2013) mean they need support to succeed in the classroom. This may not be obvious for girls with AS/HFA who use the strategy of internalising difficulties.

They are frequently perfectionists, finding it hard to begin and complete tasks on time and to the standard they require, being excessively self-critical and afraid of failure (Ashburner, Ziviani and Rodger 2010; Gould and Ashton-Smith 2011). This may lead to the avoidance of academic risk-taking, which may be dismissed as gender-typical in girls. Additional signs of anxiety are also not always obvious. Ozsivadjian, Knott and Magiati (2012, 113) found the main way these children express anxiety is by behavioural means; significantly for the identification in school of girls, this includes very subtle behaviours such as nail-biting and chewing, 'withdrawal/escape' and 'repetitive behaviours'.

Many autistic children also experience difficulties with processing sensory information, being hyper- or hypo-responsive, which can affect behaviour in the classroom (Wing, Gould and Gillberg 2011). Sensory Processing Disorder (SPD) has been found to impact on the ability to concentrate on cognitive tasks, for example, and hypo-responsiveness and sensory seeking behaviours have been linked to academic underachievement (Ashburner, Ziviani and Rodger 2010). Sensory sensitivities and

sensory overload have also been correlated with a range of behaviours that communicate stress but challenge others, such as meltdowns, non-participation in transitions and an increase in repetitive behaviours (Myles, Trautman and Schelvan 2013). In addition, personal hygiene and grooming activities such as daily washing, hair-brushing and choice of clothes are sensory challenges that may be neglected as a result, and may be particularly isolating for girls due to stereotypical gender expectations around appearance (Nichols, Moravcik and Tetenbaum 2009).

The hidden curriculum

The focus of this study was to consider the experience of girls in schools and to examine the impact of their difficulties at different points in the school day. The particular focus lies with the hidden curriculum where, 'There are few, if any, universal and inflexible social rules' (Myles and Simpson 1998, 4).

The hidden curriculum is widely accepted to be 'that we are not taught directly yet are assumed to know' (Myles and Simpson 2001, 279). It includes rules and customs, perhaps fashions or trends, and may change and evolve over time; critically, though, it is always implicit and unstated (Myles, Trautman and Schelvan 2013). Variables include age and gender, 'culture and circumstance' (Endow 2010, 2).

Neuro-typical children use 'social intuition' to work out how the world works. Autistic children, however, do not learn intuitively and trying to 'fit into a world that seems totally foreign' can be a daily cause of great anxiety (Dubin 2009, 12). Children with AS/HFA struggle with the social demands of school, with the daily risk of missing or misinterpreting the many unspoken social rules and codes of conduct at school (Portway and Johnson 2005; Lee 2011). The central research question was therefore to understand how the hidden curriculum affected the girls and its impact on their experiences of school.

Methods

The research consisted of case studies of three girls in different mainstream primary schools, utilising ethnographic methods to capture the 'complexity and situatedness of behaviour' (Cohen, Manion and Morrison 2007, 85). This enabled the presentation and interpretation of the 'uniqueness' (ibid) of each girl's experience, using different methods to capture data and facilitate triangulation (Scaife 2004). Ethnography has been shown to detect behaviours that may otherwise go undetected, 'especially in the case of conformist pupils, and of girls' (Woods 1986, 13); particularly relevant for a study that looked for more subtle behaviours (Gould and Ashton-Smith 2011). Purposive sampling was used to select participants where only the age and diagnosis of each girl was disclosed. The aim was to provide rich, detailed data consistent with a qualitative approach and supportive of the children as individuals with different experiences (Davies 2007).

The principal method of data collection was non-structured non-participant observation, using a narrative system to record field notes. Observations were combined with interviews, drawings, photographs and sorting activities. Teachers explained to each class that the researcher was conducting a study into how girls learn at primary school. Observations were initially guided by the main research question, with each girl observed over a period of three consecutive days, both in the classroom and in the playground, for approximately 18 hours in total. The girls were seen in core subjects each day, plus a range of other subjects and in different settings.

Semi-structured interviews were conducted with each girl's mother (two fathers were not available and one was no longer in the family home), class teacher and the school SENCO to discuss observations, and to give them an opportunity to present their own understanding of the child and the impact of her diagnosis. Interviews with the mother

of each girl were scheduled for halfway through each observation period. The class teacher was interviewed after the observations and the first discussion session with each girl had been completed. Interviews with the SENCOs were carried out at the end of the field work, and incorporated the opportunity to view documents such as Individual Education Plans (IEPs) that added to the richness of the data collection.

Discussions with the girls took place one to two weeks after the observation period. Class teachers were asked to select the three girls to take part in the activities but, as one girl had not been told of her diagnosis, not to disclose their selection was based on their autism.

Two short activity-led sessions were spent with each girl and a partner of her choice, with a third session added in one case. Activities were practical and child-centred in order to increase the likelihood of a response (O'Reilly 2009), and used visual techniques for their value in aiding communication and bringing authenticity to children's views (Prosser and Loxley 2007). A learning walk was conducted with the two younger girls, who were invited to take photographs of the places they liked in school. Venn diagrams, drawings and mind-maps were used with all three girls to enable the sorting and prioritising of key observations displayed as symbols/PECS or text.

An organisational framework was built using the text from observations in the field as it was gathered (Opie 2004). Initial categories of the hidden curriculum and evidence of support to access it were created. Additional categories were allowed to emerge from the data as it was collected. Categories and sub-categories were revised and refined as data was re-visited or new data added (Humphrey and Lewis 2008).

Ethical approval for the research was granted by the Ethics Committee at the University of Bath prior to the collection of any data. All participants were given pseudonyms. Written consent was provided by the Head or SENCO at each school, and

separately by the mother of each girl, prior to the gathering of any data. This followed written information on the purpose of the research and an opportunity to have any questions answered. Traffic light cards were used to monitor the comfort/anxiety of the girls and guide their assent to participate throughout the pair work: green (I'm okay/continue); amber (I'm finding this uncomfortable); red (I want to stop).

Findings

Four key areas in which the hidden curriculum appeared to create difficulties for the girls were identified: class rules; working collaboratively; completing tasks; other interactions with peers. In addition, a number of modifications and coping strategies were observed being used by the girls, many of which were unnoticed or not acted upon. Finally, striking differences in the perspectives of pupil, parent and teacher were identified. These all inform the later discussion on the impact of the hidden curriculum at school, and include observations on supports provided to manage anxiety behaviours.

Contextual views of each of the girls in the study are offered first.

Amy

Amy was a Y3 pupil (aged 8) at a large inner-urban primary school with an above average proportion of pupils with disabilities and SEN. She was diagnosed with AS and SPD in 2010, following a referral by the school for suspected dyspraxia. Amy was making less than satisfactory progress in writing and was underachieving in terms of Age Related Expectations (ARE) in maths, writing and reading.

Scarlett

Scarlett was a Y6 pupil (aged 11) at a slightly above average size primary school, which had a below average number of pupils with Statements but above average number of other

pupils with disabilities and SEN and had been there for four years. She was diagnosed with autism in 2005 following a referral by her Health Visitor and the nursery she attended at the time, when the family was living in a large city in the north of England. Since then she has had a Statement of Need for 1:1 support (currently 15 hours/week). She was intellectually high-functioning, had made expected progress and was on target to meet or exceed National assessment targets that year. Scarlett had not been told of her diagnosis.

Gem

Gem was a Y2 pupil (aged 7) in an above average size primary school with a below average proportion of pupils with disabilities and SEN. She was referred to a paediatrician at parental request and in May 2011 received a diagnosis of AS and SPD. Her results showed that she was exceeding ARE in maths and reading but was below average in progress and achievement in writing. She was on the school's SEN Register at School Action Plus (SA+) and had an IEP. She had previously attended a 10-week social skills course, and the SENCO said this support was no longer needed; she was 'interacting fine'. There was one short weekly intervention in place with a TA to develop her poor fine motor skills.

Hidden curriculum and areas of difficulty

1. *Class rules*

All three girls frequently over-reacted both physically and/or verbally in the classroom during observations. Scarlett's exuberance at being able to plant a few oats on a school trip, Amy's over-enthusiasm on finding the classroom pencils had been sharpened, and Gem's squeals of excitement during a maths game, marked them out from their peers.

Neither Scarlett nor Amy understood that when a teacher asked a question it was to the whole class unless a pupil was named. There were many examples of them calling

out or answering questions not directed at them. During one maths lesson Amy called out 13 times in less than 23 minutes.

In Amy's class 'rules' were not always consistent. The way to answer a question and how to ask for help were changeable and at times confusing, for example. Amy's inability to 'muddle through' such circumstances was illustrated during a lesson to write a story (an area identified by her teachers as a weakness). Amy put her hand up to ask for help and was told to put it down because 'she couldn't have a question'. Seventeen minutes later she closed her book and took it over to the class teacher, who told her to sit down and, 'If you have a problem put your hand up'. During interview Scarlett also expressed difficulty with having to muddle through, saying she got annoyed if expected to do this.

2. *Working collaboratively*

All three girls struggled to work collaboratively, preferring to work on their own ideas or to direct a member of the group. Gem found it difficult to work in a team to reach common agreement on, for example, a story line ('No, that's not interesting') and made comments that illustrated her lack of social skills. The structure of lessons was problematic for Amy, which made accessing science particularly difficult for her as it required collaboration and flexible thinking. Interviews with Scarlett and her teacher confirmed that she also struggled with particular lesson structures, which affected her ability to participate fully in the learning:

> 'I like science but sometimes I find it a bit boring because I don't really get included in much stuff…sometimes no one listens to me, so um, we don't really work, they don't really like my ideas, so I like working on my own most of the time.'

3. *Completing tasks*

The criteria for completing a task successfully were not always made explicit for Amy or Gem, which impacted on understanding and achievement. In a science lesson Amy's group got an equally valid but different result to their teacher, Mrs F, but Mrs F would not accept or discuss an alternative answer. Mrs T, her main class teacher, asked children to do their 'best work', but this was not further defined. Amy was pleased to be first to finish in almost every lesson, suggesting that she did not have a clear understanding of her teachers' expectations. This interpretation was confirmed later when she said, 'When you finish first it means like you've done more work than anybody'. Amy made the best progress when Mrs T checked that Amy understood a task and provided her with on-going instructions and prompts.

Gem struggled when teacher instructions were inconsistent, confusing or without rationale. Her teacher asked a lot of 'test' questions, such as when had they drawn a silhouette before and why was she not able to throw the javelin well; Gem was told her answers were not the ones the teacher was thinking of (although they were valid). Gem also struggled at times to stay on task. During one maths lesson she spent 26 minutes working in a small group with a supporting adult. In this time she received 6 personal redirects but only spent a maximum of 10 minutes on task including time taken to get and return equipment.

By contrast Scarlett appeared to have a clear understanding of what was expected of her, the result perhaps of a classroom culture that was particularly ASC-friendly. The style of teaching was inclusive and aware, with academic measures such as providing a rationale as well as explicit instructions, modelling expectations and monitoring understanding, such as when the class was learning how to play handball for the first time, plus a consistent approach (Myles, Trautman and Schelvan 2013).

4. *Interacting with peers*

It was in the playground that the girls' impairments in social interaction were most apparent. During breaks Scarlett sat quietly on the edge of a group, apparently listening but not joining in. She said that she often felt 'lonely' and 'left on her own' by her peers; 'they don't want me they want somebody else'. The relief from lessons felt by most children at break time was not true for Scarlett; it was the inverse: 'I feel sad when I get left out and then I feel happy when I'm doing lessons because it just gets my mind off break time and lunch time'. A major conflict for Scarlett was that she wanted to be included and yet one of her main coping strategies when she was unhappy or got stressed was to withdraw, thus excluding herself.

Amy's play and joining skills were physical and aggressive, suggesting sensory needs and that she did not know how to participate in a group. She forced herself between others, pushed a peer so hard he nearly fell into some mud, and then pretended to tie him to the perimeter fence with a skipping rope. Her interactions usually had an unhappy outcome: she upset her peers or became distressed herself during four of the six breaks and lunch times she was observed. During interview she talked about not liking lunchtimes or playing, about being bullied, and listed crying as one of the things that she does during these times.

Gem, unlike Scarlett or Amy, said she enjoyed break times. She appeared to be happy with her own company and showed no desire to communicate or collaborate with others during these times. During one break Gem jumped around a group of girls whilst on a space hopper, but didn't actually join the group. On the five other unstructured periods observed, she played alone or alongside her peers.

Modifications

The data revealed all three girls presented with behaviours that marked them out from their peers. They appeared to be personal modifications to the demands of the school day

and were indicative of high levels of anxiety. Some of these adaptations appeared to be hidden, others not noticed or not acted upon; others yet were enabled or legitimised by others.

1. *Control of space, objects or peers*

Physical space is one of the factors Loomis (2008) identifies that can make social situations more challenging, and all three girls displayed a need to control it. Amy managed her own space by proactively positioning herself at the front of a line or on the same place on the carpet, whilst Scarlett and Gem did so by often discretely giving way to others. Scarlett waited for other people to finish collecting items from the cloakroom before going in; likewise Gem waited for her peers to finish getting things out of their trays before she approached hers. On her school trip Scarlett always walked around the back of a group to find a position where she could see clearly; Gem always walked around the edge of the classroom to get to her place, turning around and finding another way through if her passage was blocked rather than pushing past or asking someone to move.

Gem and Amy found different ways to control space during unstructured periods. Gem spent a large amount of such time on her own. During lunchtime on Tuesday and Thursday she spent 40 minutes and 37 minutes respectively on her own or not communicating. Of the 40 minutes she was on the playground on Wednesday, 34 were spent on her own walking repetitively around the raised ledge surrounding the climbing frame, silently getting off and on to avoid peers who were in her path. Amy's approach was to manage her own transitions, and was not where she was supposed to be for 9 of the 12 observed transitions to/from the playground. She came in early from all three lunch times, although she was the first to go out.

Some modifications around space were enabled or legitimised by teachers: Scarlett was allowed to stay in and do jobs or go to the library at break time. On one

occasion she systematically checked and restocked the pen pots in her classroom for 18 minutes just before she left for a visit to the secondary school she was to attend in September, so that each table had the same of everything. On the two days she taught Mrs T invited Amy to come into the classroom 15 minutes before the end of lunch. This encouraged behaviour that was also valuable to the class teachers: Amy is asked to do jobs; 'she is very helpful'. Amy said that this pleased the teachers and helped her have a better day.

2. *Small constant movements*

There were multiple daily instances of all three girls making small movements over prolonged periods of time, suggestive of sensory issues or anxiety (Ozsividjian, Knott and Magiati 2012).

Scarlett fiddled with her hair or small things such as the hem of a piece of clothing, and swung, jiggled or tapped her legs. Fidget tools were provided in the classroom, but she didn't use them. During interview she said, 'They help me, yes, but no one really lets me have a turn that much, so, so I don't really bother with it anymore, I just fiddle with what I have'. During interview her mother said Scarlett played with her hair when she was nervous.

Gem moved almost continuously. She fiddled with blue-tac or a pencil, tapped or jiggled her feet, knelt on her seat, crouched, rocked and stood. She appeared to have difficulty sitting still for any period of time. This was illustrated during a visit to a library, where the class had to sit on the carpet for 50 minutes. Gem was recorded making 31 separate movements of nine different types throughout this time.

Amy chewed her fingers most of the time, but also fiddled with pencils and bits of thread, leant or rubbed against furniture and sat with her chair legs pressing into her feet. During a learning walk with the researcher she said she loved the climbing frame

and rolling down the small embankment in the playground. She also said that whilst fiddling helped her to concentrate and made her 'happier', 'It doesn't make the teacher very happy! It makes the teacher shout at me'.

3. *Hiding*

This was a recurring theme for all three girls. All three girls hid when they didn't understand something in class, by not participating and then observing their peers for clues rather than ask for help. Amy had multiple other strategies ranging from trying to hide her work from her peers to writing illegibly in tiny letters on her whiteboard and rubbing her writing out before the teacher had seen it. She kept looking busy by picking up reading books or extension activities, but did not always do anything with them: in one literacy lesson she spent 15 minutes on the writing task and 22 minutes on four different maths extension activities, only two of which she attempted correctly.

Significantly, the girls' behaviour also masked their true feelings, though this was idiosyncratic. Personal feelings were only revealed during interview, reinforcing the importance of pupil voice. It was clear, for example, that anxiety was a big issue for Scarlett, and that she tried to hide it, 'I just keep it to myself'. What she effectively internalised was her frustration and displeasure at being ignored, enduring wet play, having to muddle through or working in a team.

This masking of difficulties was most successful by Gem, whose teacher questioned the parents' approach to discipline as Gem only exhibited explosive behaviour at home: 'I don't have to cope with anything'.

Perspectives

Interviews with Amy, her mother and the school revealed two areas of consensus, which were that breaks and interacting with her peers were key difficulties. In addition, her mother, class teachers and the SENCO all stated that Amy liked to be in control.

Differences in the assessment of impact and support required were also revealed. Amy's mother believed the frequency and severity of the impact of her AS at school was greater than the assessment made by the main class teacher, Mrs T., whilst the SENCO said that Amy required no additional support at the moment. Her mother, for example, commented that Amy's coping mechanism at home was to withdraw: 'If she's feeling she's getting stressed she goes to her room'. Amy said that it would help her if there was somewhere at school she could go to be on her own. However, the SENCO stated that she had 'had to discourage' the time-out space as Amy had wanted to spend too much time there.

There were mixed views on how much Amy enjoyed school. Mrs T said that she always responded positively in lessons. Amy's mother said that her daughter didn't like coming to school – 'there are too many people'. Amy said that she didn't really have any friends and was clear in her own answer: 'I don't normally have that much fun usually and I don't really like coming to school'.

By contrast, interviews with Scarlett's mother, class teacher (Mrs D), TA and the SENCO revealed a shared understanding of her strengths and difficulties. All said that social situations and unstructured times (including unstructured lessons) were the most challenging for her, as did Scarlett, and they recognised the impact they had on her learning: 'If she's had a difficult break or lunch she can find it hard to concentrate' (Mrs D). Her mother, Mrs D and TA noted she had high levels of anxiety, with school staff stating this impacted on her concentration, confidence and performance in some subjects, notably maths. They all said that her coping strategy was to internalise her anxiety and retreat: 'If she's not feeling comfortable she does withdraw,' and she 'tends to work more by herself' (Mrs D).

In terms of her enjoyment of school, both her mother and Mrs D thought she was generally happy. Scarlett's feelings about school appeared to be directly linked to the quality of her social interactions and were not so positive: 'I treat everyone as normal people but they don't, they seem to like ignore me. I feel like I don't exist here'.

Interviews with Gem, her mother, teacher and the SENCO showed two areas of consensus: that she had lots of strengths (such as reading and speaking) and that her key difficulty was her handwriting: her teacher said, 'I can't read it' whilst Gem said, 'although my handwriting is getting better, it's still not very clear'.

As per Amy, there were considerable differences in perspective on the impact of Gem's AS at school. The breadth, frequency and severity were all rated much higher by Gem's mother than by her teacher, who believed she had no barriers to learning: 'There is nothing, I see nothing'. The SENCO said the school had not picked up any signs of impairment prior to diagnosis. Gem's mother felt that because her daughter's impairments were not always obvious it was hard to get Gem the support she needed: 'because they don't see it at school, they don't acknowledge it as much of a problem'.

Views varied on how much Gem enjoyed school. Her mother said the period of the national assessments had been very difficult with some 'wobbly weeks and late arrivals'. Her teacher thought Gem enjoyed school 'very much'; she was very 'flappy and excitable'. Gem gave many examples of things she enjoyed at school: lessons such as ICT and science, break times and the use of equipment such as the climbing frame outside and the apparatus in the hall, and said school was 'just a tiny bit over okay'.

Discussion

The case studies revealed that all three girls experienced problems navigating the hidden curriculum in and out of the classroom. Class rules were sometimes inconsistent, expectations were not always made explicit and comprehension was often unchecked.

This is in direct contrast to common recommendations for teachers of autistic children (Myles and Simpson 1998; NAS 2011). Staff did not always appear to be aware of the hidden curriculum, nor of the implications of it for the girls. They were thus not always in a position to notice when something presented a challenge to their pupil. Where rules and expectations were explicit and consistent, all three girls were successful in meeting them most of the time.

Collaborative working and play time interactions were frequently unsupported, despite two of the girls visibly struggling in these situations. Some teachers were uninformed about the girls' behaviour during their non-contact time, particularly during the lunch break, although national advice is that teachers should provide structure both in and out of the classroom so that school is a less chaotic place (Humphrey 2008; Perepa 2011; NAS 2012). Two of the girls returned from breaks more anxious and therefore less able to learn, but not all teachers recognised the signs or knew how best to support them. There have been recommendations that social skills be taught in real-life, meaningful settings with 'girl-orientated personal, social skills classes' (Gould and Ashton-Smith 2011, 38); again, something to which none of the three girls had access but which could be particularly beneficial to girls over lunchtimes.

A key unexpected finding of this research was that a diagnosis was not sufficient in itself to ensure support to overcome impairments central to the diagnosis. This could sometimes be explained by an apparent lack of teacher knowledge or awareness of autism in girls. All three schools had access to the local authority ASD Advisory Teacher, but not all teachers fully understood the diagnosis as it presented in their female pupil or its implications for teaching and learning, suggesting they did not have sufficient training to tackle the range of conditions they meet in the classroom (Autism Education Trust 2011; Szatmari 2011), In addition, Amy's teacher noted that there were 'children with more

needs' in the school, suggesting that support was also limited by the available resources in a school with an above average number of pupils with SEND.

Of concern was the lack of attention given to the knowledge of parents, as parent views are a key part of understanding the impact of an impairment or health condition (Porter et al. 2013). Here it was evident that where the severity of impact of the impairment was assessed by the class teacher or the SENCO at a lower level than the mother, the staff challenged the diagnosis and questioned the parenting style. This suggests those teachers made their own assessment of the girl's needs, and did not access post-diagnosis information and recommendations from specialists such as paediatricians and Occupational Therapists. It further suggests that the teachers concerned based their impact statements about a girl's diagnosis on how they and their class were affected. The implications of this for the provision of reasonable adjustments and school-based support for 'hidden' disabilities are significant.

Critically, the presentation and behaviour of the girls may contribute to this lack of understanding and subsequent lack of support. Girls are often relatively inconspicuous compared to boys (Attwood et al. 2006; Solomon et al. 2012), although Amy demonstrated there is a broader phenotype. Despite outward differences all three girls shared core similarities, notably in terms of 'masking' impairment as a coping strategy, in line with the previously identified coping strategies of internalising and hiding. The girls made personal adjustments that were very discrete or that they tried to hide, and these effectively influenced the perception that others had of the impact of autism on their lives at school. The less externalised evidence of social isolation, under-performance and anxiety in these autistic girls was overlooked, and thus their access to the curriculum was restricted through lack of appropriate support. This needs to change if the under-

achievement and mental health issues described by Kuusikko et al. (2008) and Ashburner, Ziviani and Rodger (2010) are to be avoided by these girls in adolescence.

Figure 1 here: The girls' modifications

An assessment of needs for a girl with autism therefore needs to include both parent and pupil voice (Porter 2015), and be clearly differentiated from the impact that girl has on the teacher or on the rest of the class. Without this, a vicious circle is created with the girls making more and more of their own modifications to compensate for the lack of support provided in school, which in turn leads teachers to think that the impact of autism is small and thus less support needs to be provided.

A limitation of the methodology used in the research was that the period of observation of each girl was only 18 hours. Consequently, the reality of daily behaviours, expectations and interactions could have been hidden, or missed. These limitations were offset by sampling a variety of activities and settings over different days. Interviews increased the validity of the findings through triangulation, and were informative in terms of illuminating attitudes and concerns, and in understanding how the behaviour picture varied between home and school. Future research would benefit from a participant approach to observation over an extended period of time in order to increase reliability.

Conclusion

This research found that the hidden curriculum creates difficulties for girls with AS/HFA. They do not learn intuitively so must be taught rules and school culture. However, their coping mechanisms of masking and internalizing difficulties and anxieties make them vulnerable to not having their needs met in school, even with a formal diagnosis. Whilst it is not possible to generalise the results across all girls with AS/HFA at primary school,

it is hoped that they will offer insights into the experiences of these particular girls, and also illuminate for teachers some of the unseen challenges faced by girls as well as how they may be supported. This knowledge is significant because unless teachers understand the need to address the hidden curriculum, they are also at risk of not teaching the known curriculum in a way these girls can access.

References:

Andersson, G. W., C. Gillberg, and C. Miniscalco. 2013. Pre-school children with suspected autism spectrum disorders: Do girls and boys have the same profiles? *Research in Developmental Disabilities,* 34(1): 413-422.

Ashburner, J., J. Ziviani, and S. Rodger. 2010. Surviving in the mainstream: Capacity of children with autism spectrum disorders to perform academically and regulate their emotions and behavior at school. *Research in Autism Spectrum Disorders,* 4(1): 18-27.

Attwood, T. 2007. *The Complete Guide to Asperger's Syndrome*. London: Jessica Kingsley Publishers.

Attwood, T., C. Faherty, S. Wagner, M. Wrobel, T. Bolick, J.M. Myers, R. Snyder, and T. Grandin. 2006. *Aspergers and Girls*. Arlington, Texas: Future Horizons.

Autism Education Trust. 2011. "Educational Provision and Outcomes for People on the Autism Spectrum." http://www.autismeducationtrust.org.uk/Resources/Outcomes.aspx

Beteta, L. M. 2009. "A phenomenological study of the lived experiences of adolescent females with Asperger Syndrome." http://gradworks.umi.com/33/42/3342492.html

Cohen, L., L. Manion, and K. Morrison. 2007. *Research Methods in Education*. London: Routledge.

Davies, M.B. 2007. *Doing a Successful Research Project.* Basingstoke: Palgrave Macmillan.

Dean, M., C. Kasari, W. Shih, F. Frankel, R. Whitney, R. Landa, C. Lord, F. Orlich, B. King and R. Harwood. 2014. The peer relationships of girls with ASD at school: Comparison to boys and girls with and without ASD. *The Journal of Child Psychiatry and Psychology,* doi: 10.1111/jcpp.12242.

Dubin, N. 2009. *Asperger Syndrome and Anxiety.* London: Jessica Kingsley Publishers.

Endow, J. 2010. "Navigating the Social World: the Importance of Teaching and Learning the Hidden Curriculum" http://www.autism-society.org/living-with-autism/lifespan/adulthood/hidden-curriculum.pdf

Fombonne, E. 2005. Epidemiological studies of pervasive developmental disorder. In *Handbook of Autism and Pervasive Developmental Disorders*, edited by F. Volkmar, R. Paul, A. Klin, and D. Cohen, 42-69. Hoboken, NJ: Wiley.

Gal, E., N. Bauminger, D. Goren-Bar, F. Pianesi, O. Stock, M. Zancanaro, and P.L. Weiss. 2009. Enhancing Social Communication of Children with High- Functioning Autism with a Co-located Interface. *AI & Society*, 24(1): 75-84.

Garnett, M., T. Attwood, C. Peterson, and A.B. Kelly. 2013. Autism Spectrum Conditions among Children and Adolescents: a New Profiling Tool. *Australian Journal of Psychology,* 65 (4): 206-213

Gessaroli, E., E. Santelli, G. di Pellegrino, and F. Frassinetti. 2013. Personal Space Regulation in Childhood Autism Spectrum Disorders. *PLoS ONE* 8(9): e74959.

Gould, J. and J. Ashton-Smith**.** 2011. Missed Diagnosis or Misdiagnosis? Girls and Women on the Autistic Spectrum. *GAP*, 12(1): 34-41.

Grugeon, E.1993. Gender Implications of Children's Play-ground Culture. In *Gender and Ethnicity in Schools: Ethnographic Accounts,* edited by P. Woods and M. Hammersley, 11-33. London: Routledge & Open University Press.

Howlin, P. 2005. Outcomes in Autism Spectrum Disorders. In *Handbook of Autism and Pervasive Developmental Disorders*, edited by P. Volkmar, and C. Klin, 201-222. Hoboken, NJ: Wiley.

Humphrey, N. 2008. Including Pupils with Autistic Spectrum Disorders in Mainstream Schools. *Support for Learning*, 23(1), 41–47.

Humphrey, N. and S. Lewis. 2008. What does 'Inclusion' mean for Pupils on the Autistic Spectrum in Mainstream Secondary Schools? *Journal of Research in Special Educational Needs,* 8(3): 132-140.

Jordan, R. and S. Powell. 1996. *Understanding and Teaching Children with Autism.* Chichester: John Wiley.

Kopp, S. and C. Gillberg. 1992. Girls with Social Deficits and Learning Problems: Autism, Atypical Asperger Syndrome or a Variant of These Conditions. *European Child and Adolescent Psychiatry,* 1(2): 89-99.

Kopp, S., K.B. Kelly, and C. Gillberg. 2010. Girls with Social and/or Attention Deficits: A Descriptive Study of 100 Clinic Attenders. *Journal of Attention Disorders,* 14(2): 167-181.

Krahn, T. M. and A. Fenton. 2012. The Extreme Male Brain Theory of Autism and the Potential Adverse Effects for Boys and Girls with Autism. *Bioethical Enquiry,* 9: 93-103

Kuusikko, S., E. Pollock-Wurman, K. Jussila, A.S. Carter, M-J. Mattila, H. Ebeling, D.L. Pauls, and I. Moilanen. 2008. Social Anxiety in High-functioning Children and Adolescents with Autism and Asperger Syndrome. *Journal of Autism and Developmental Disorders,* 38(9): 1697-1709.

Lai, M-C., M.V. Lombardo, G. Pasco, A.N.V. Ruigrok, S.J. Wheelwright, S.A. Sadek, B. Chakrabarti, MRC AIMS Consortium and S. Baron-Cohen. 2011. A Behavioral

Comparison of Male and Female Adults with High Functioning Autism Spectrum Conditions. *PLoS ONE* 6(6): e20835. doi:10.1371/journal.pone.0020835

Lawson, W. 1988. *Understanding and Working with the Spectrum of Autism.* London: Jessica Kingsley Publishers.

Lee, H.J. 2011. Cultural Factors Related to the Hidden Curriculum for Students with Autism and Related Disabilities. *Intervention in School and Clinic*, 46 (3): 141-149.

Loomis, J.W. 2008. *Staying in the Game: Providing Social Opportunities for Children and Adolescents with Autism Spectrum Disorders and other Developmental Disabilities*. Shawnee Mission, KS: AAPC Publishing

McLennan, J. D., C. Lord, C and E. Schopler, E. 1993. Sex Differences in Higher Functioning People with Autism. *Journal of Autism and Developmental Disorders*, 23(2): 217-227.

McPartland, J.C. and F.R. Volkmar. 2013. Asperger Syndrome and its Relationships to Autism. In *The Neuroscience of Autism Spectrum Disorders,* edited by J.D. Buxbaum and P.R. Hof, 55-68. Oxford: Elsevier Press.May, T., K. Cornish, N. Rinehart. 2014. Does Gender Matter? A One Year Follow-up of Autistic, Attention and Anxiety Symptoms in High-Functioning Children with Autism Spectrum Disorder. *Journal of Autism and Developmental Disorders,* 44 (5): 1077-1086.Myles, B.S. 2005. "The Cycle of Tantrums, Rage, and Meltdowns in Children and Youth with Asperger Syndrome, High-Functioning Autism, and Related Disabilities."
http://www.isec2005.org.uk/isec/abstracts/papers_m/myles_b.shtml

Myles, B.S. and R.L. Simpson. 1998. *Asperger Syndrome: A Guide for Educators and Parents*. Austin, Texas: PRO-ED.

Myles, B.S. and R.L. Simpson. 2001. Understanding the Hidden Curriculum: An Essential Social Skill for Children and Youth with Asperger Syndrome. *Intervention in School and Clinic*, 36(5): 279-286.

Myles, B.S., J. Hudson, H.J. Lee, S.M. Smith, K-C Tien, Y-C Chou and T.C. Swanson. 2007. A Large-Scale Study of the Characteristics of Asperger Syndrome. *Education and Training in Developmental Disabilities*, 42(4): 448–459.

Myles, B.S., M.L. Trautman, and R.L. Schelvan. 2013. *The Hidden Curriculum for Understanding Unstated Rules in Social Situations for Adolescents and Young Adults.* Kansas: AAPC Publishing.

NAS. 2011. "Classroom and Playground: Support for Children with Autistic Spectrum Disorders." http://www.autism.org.uk/working-with/education/educational-professionals-in-schools/lessons-and-breaktimes/education-classroom-and-playground-support-for-children-with-autism-spectrum-disorders.aspx

NAS. 2012. "Understanding Difficulties at Break Time and Lunchtime." http://www.autism.org.uk/working-with/education/educational-professionals-in-schools/lessons-and-breaktimes/education-understanding-difficulties-at-break-time-and-lunchtime.aspx

Nichols, S., G. M. Moravcik, and S.P. Tetenbaum. 2009. *Girls Growing up on the Autism Spectrum*. London: Jessica Kingsley Publishers.

O'Reilly, K. 2009. *Key Concepts in Ethnography*. London: Sage.

Opie, C. 2004. Presenting Data. In *Doing Educational Research*, edited by C. Opie, 130-161. London: Sage.

Ozsivadjian, A., F. Knott, and I. Magiati, I. 2012. Parent and child perspectives on the nature of anxiety in children and young people with autism spectrum disorders: a focus group study. *Autism,* 16(2): 107-121.

Perepa, P. 2011. “Classroom and Playground: Support for Children with Autism Spectrum Disorders.” http://www.autism.org.uk/working-with/education/educational-professionals-in-schools/lessons-and-breaktimes/education-classroom-and-playground-support-for-children-with-autism-spectrum-disorders.aspx

Porter J. (2015) *Understanding and Responding to the Experiences of Disability*. London: Routledge.

Porter, J., J. Georgeson, H. Daniels, S. Martin, and A. Feiler. 2013. Reasonable Adjustments for Disabled Pupils: what Support *Do* Parents Want for their Child? *European Journal of Special Needs Education,* 28(1): 1-18.

Portway, S.M., and B. Johnson. 2005. Do you Know I have Asperger’s Syndrome? Risks of a Non-obvious Disability. *Health Risk & Society*, 7(1): 73-83.

Prosser, J. and A. Loxley. 2007. Enhancing the Contribution of Visual Methods to Inclusive Education. *Journal of Research in Special Educational Needs,* 7(1): 55-68.

Scaife, J. 2004. Reliability, Validity and Credibility. In *Doing Educational Research*, edited by C. Opie, 58-72. London: Sage.

Solomon, M., M. Miller, S. Taylor, S. Hinshaw, and C. Carter. 2012. Autism Symptoms and Internalizing Psychopathology in Girls and Boys with Autism Spectrum Disorders. *Journal of Autism and Developmental Disorders*, 42(1): 48-59.

Szatmari, P. 2011. New Recommendations on Autism Spectrum Disorder. *BMJ*, 342: d2456.Wing, L. 2007. Children with Autistic Spectrum Disorders. In *Included or Excluded? The Challenge of the Mainstream for some SEN Children*, edited by R. Cigman, 23-33. Oxon: Routledge.

Wilkinson, L.A. 2008. The Gender Gap in Asperger Syndrome: Where are the Girls? *TEACHING Exceptional Children Plus*, 4(4) Article 3. http://journals.cec.sped.org/tecplus/vol4/iss4/art3/.

Wing, L., J. Gould, and C. Gillberg. 2011. Autism Spectrum Disorders in the DSM-V: Better or Worse than the DSM-IV? *Research in Developmental Disabilities*, 32 (2): 768-773.

Woods, P. 1986. *Inside Schools: Ethnography in Educational Research*. London: Routledge & Kegan Paul.

Figure 1: The Girls' Modifications